
Hunters' Experiences with and Attitudes about Antler Restrictions in Wildlife Management Units 3C, 3J, 3H, and 3K during the 2010 Hunting Season.



May 2011

HDRU Series No 11-3

Prepared by:

Jody W. Enck and Daniel J. Decker
Human Dimensions Research Unit
Department of Natural Resources
Cornell University

EXECUTIVE SUMMARY

The New York State Department of Environmental Conservation (DEC) initiated a pilot program of antler restrictions (i.e., at least 3 points \geq 1 inch on an antler; youth exempted) in Wildlife Management Units (WMUs) 3C and 3J for the 2005 hunting season and expanded the pilot to include WMUs 3H and 3K for the 2006 hunting season. Cornell University's Human Dimensions Research Unit (HDRU) surveyed samples of hunters living and/or hunting in WMUs 3C and 3J after the 2005, 2006, and 2007 hunting seasons, and hunters living or hunting in WMUs 3H and 3K were surveyed after the 2006 and 2007 hunting seasons, as part of an evaluation of hunters' experiences and attitudes about hunting under antler restrictions. We continued this evaluation with the current survey (following the 2010 season), specifically determining whether antler restrictions changed hunters' participation in the pilot WMUs or influenced their willingness to voluntarily pass-up shots at smaller-antlered bucks in areas without mandatory antler restrictions.

The current survey included 474 persons living in WMUs 3C or 3J (referred to as the 3C/3J Panel) who had been surveyed previously about the pilot antler restrictions, and who had responded in at least one of the years in which they were surveyed (i.e., 2006, 2007, and/or 2008) and 280 persons living in WMUs 3H or 3K (the 3H/3K Panel) who had been surveyed previously about the pilot antler restrictions, and who had responded in at least one of the years in which they were surveyed (i.e., 2007, and/or 2008). We also surveyed an additional group of hunters living outside the pilot WMUs, but who had either applied for a Deer Management Permit (DMP) in one of the pilot WMUs ($n = 316$) in 2004 (i.e., prior to antler restrictions) or 2010, and those who reported harvesting a deer in one of the WMUs ($n = 318$) in 2004 or 2010. Responses of these non-local hunters were included only in the assessment of whether antler restrictions have caused a change in participation behavior.

All 1,388 hunters in the four samples were mailed a questionnaire on 18 February 2011 (125 questionnaires were not deliverable), and were sent up to three reminder letters. We received 757 completed questionnaires. In addition, telephone interviews using a subset of the most important questions were completed with 200 nonrespondents to the mail surveys (100 from the two panels, and 100 from the non-local hunters) between April 6 and 20, 2011. In general, nonrespondents were less likely to have hunted deer in 2010 (68% hunted), but otherwise reported similar levels of satisfaction and opinions about the antler restriction program as respondents. Non-local hunters also reported levels of satisfaction and opinions about the pilot program that were similar to respondents from the two panels.

Summary of Findings

The following four bullets highlight general hunting behavior, experiences and satisfactions of responding hunters.

- Antler restrictions had no influence on deer-hunting participation in the pilot WMUs for >70% of respondents from the two panels and for >60% of non-local hunters. Most respondents hunted in the pilot WMUs every year since antler restrictions started.

- 45% of respondents from the 3C/3J Panel and 51% of respondents from the 3H/3K Panel were satisfied with their **overall deer-hunting experiences** during the 2010 hunting season; 35% (3C/3J Panel) and 29% (3H/3K Panel) were dissatisfied.
- 42% of respondents from the 3C/3J Panel and 52% of respondents from the 3H/3K Panel were satisfied with their **buck-hunting experiences** during the 2010 hunting season; 40% (3C/3J Panel) and 29% (3H/3K Panel) were dissatisfied.
- 40% of respondents from the 3C/3J Panel and 56% from the 3H/3K Panel reported that their buck-hunting satisfaction had increased since the pilot was implemented; 36% (3C/3J Panel) and 21% (3H/3K Panel) reported that their buck-hunting satisfaction had decreased.

In general, hunters' assessment of satisfaction depends, in part, on whether the level of positive aspects experienced while hunting are above (high enough), below (too low), or just at the minimum level they desire to feel satisfied. Satisfaction also depends, in part, on whether the level of negative aspects that hunters experience while hunting are above (too high), below (low enough), or at the maximum level they can tolerate and still feel satisfied. The next two bullets relate to these assessments of various aspects of hunting satisfaction.

- Fewer than one-half of respondents in each panel reported that any of the nine positive aspects of hunting that we examined were “high enough” for them to be satisfied. Majorities in both panels indicated that four positive aspects were “too low” for them to be satisfied: (1) their perception of the deer sex ratio (not enough males) and (2) buck age ratio (not enough older bucks), (3) the number of older bucks they saw while hunting, and (4) their perception of the opportunity to harvest an older buck. About one-quarter to one-third of respondents in both panels indicated that each of the nine positive aspects we examined was at the minimum level they needed to be satisfied.
- Fewer than one-half of respondents in each panel reported that any of the four negative aspects of hunting that we examined were “low enough” for them to be satisfied. No more than one-third of respondents, however, indicated that each of the four negative aspects were “too high.” About one-third of respondents in each panel indicated that each of the four negative aspects was at the maximum level they could tolerate and still be satisfied.

The following bullets report general findings about hunters' expectations, behavioral intentions, and preference for the future of antler restriction regulations in the four pilot WMUs.

- A majority of respondents from each panel indicated that, under the antler restrictions, their expectations were not met for: (1) the number of older, larger-antlered bucks they saw while hunting, (2) the number of antlered bucks seen compared to the number of antlerless deer, and (3) their opportunities to shoot a larger-antlered buck. About one-half of the respondents from the two panels reported their expectations were met and one-half reported their expectations were not met for two other aspects that we examined: (1)

the total number of antlered bucks of any size seen while hunting, and (2) their perceived chances of shooting a buck.

- Most respondents (65% for the 3C/3J Panel and 78% for the 3H/3K Panel) have a positive attitude towards voluntarily passing up younger, smaller antlered buck in areas without antler restrictions. More respondents agreed than disagreed that hunting under antler restrictions in the pilot WMUs had made them more likely to pass-up younger bucks in places without restrictions.
- The pilot antler restriction program has had little influence on hunters' willingness to apply for or try to fill deer management permits (DMPs).
- Continuing the pilot program as it currently operates is "very acceptable" or "moderately acceptable" to 62% of 3C/3J respondents and 80% of 3H/3K respondents. The idea of discontinuing antler restrictions and emphasizing voluntary restraint against shooting younger bucks is "not at all acceptable" to 47% of 3C/3J respondents and 61% of 3H/3K respondents. Overall, majorities in both panels expressed a preference for continuing the program "as is."

ACKNOWLEDGMENTS

We are grateful for guidance and assistance from staff with the New York State Department of Environmental Conservation, especially J. Hurst, E. Kautz, and K. Clarke. K. Smith with the Human Dimensions Research Unit, Department of Natural Resources, Cornell University mailed the questionnaires and entered the data in preparation for statistical analysis. Staff with Cornell University's Survey Research Institute conducted the non-respondent telephone interviews.

Funding for this study was provided by the New York Federal Aid in Wildlife Restoration Grant WE-173-G.

TABLE OF CONTENTS

Executive Summary	i
Acknowledgments.....	iv
Table of Contents.....	v
List of Tables	vi
List of Figures	vii
Introduction.....	1
Methods.....	1
Results.....	3
Hunting Participation	3
Satisfaction with Hunting Experiences	4
Factors Affecting Hunters' Satisfaction.....	8
Attitudes Toward Voluntary Restraint in lieu of Antler Restrictions	14
Willingness to Harvest Antlerless Deer.....	17
Acceptability of Possible Future Management Actions.....	18
Influence of the Pilot Program on Attitudes toward DEC	19
Summary	20
Literature Cited	20

LIST OF TABLES

Table 1. Influence of antler restrictions on deer-hunting participation in the pilot WMUs.	3
Table 2. Participation in the pilot WMUs during the 2005 through 2010 hunting seasons.....	4
Table 3. Level of satisfaction with overall deer-hunting experiences in the pilot WMUs during the 2010 hunting season.....	6
Table 4. Level of satisfaction with buck-hunting experiences in the pilot WMUs during the 2010 hunting season.....	6
Table 5. Change in satisfaction with overall deer-hunting experiences since antler restrictions began in the pilot WMUs.....	7
Table 6. Change in satisfaction with buck-hunting experiences since antler restrictions began in the pilot WMUs.....	7
Table 7. Positive aspects of hunters' experiences for which approximately one-half or more of respondents were dissatisfied. (Percents total across rows.).....	9
Table 8. Positive aspects of hunters' experiences for which 40-50% of respondents were dissatisfied. (Percents total across rows.)	10
Table 9. Positive aspects of hunters' experiences for which more respondents were satisfied than dissatisfied. (Percents total across rows.)	11
Table 10. Negative aspects of hunters' experiences compared with their level of tolerance for those aspects. (Percents total across rows.)	12
Table 11. Comparison of hunters' expectations and experiences for five aspects of deer hunting. (Percents total across rows.)	13
Table 12. Hunters' attitudes toward showing voluntary restraint by passing-up shots at young bucks with small antlers in places without mandatory antler restrictions.	14
Table 13. Respondents' agreement or disagreement with statements about possible factors affecting their willingness to voluntarily pass-up shots at young bucks with smaller antlers in places without mandatory antler restrictions. (Percents total across rows.)	15
Table 14. Changes in willingness to apply for DMPs prior to and since experiencing the pilot antler restrictions.....	17
Table 15. Changes in willingness to try to fill DMPs before and since experiencing the pilot antler restrictions.....	17
Table 16. Acceptability of possible future management directions for the pilot WMUs.....	18
Table 17. Preferences for possible future management directions in the pilot WMUs.....	18
Table 18. Influence of DEC' use of the pilot program to experimentally evaluate hunters' satisfaction with antler restrictions on hunters' perceptions of DEC's deer management program.	19

LIST OF FIGURES

Figure 1. Location of Wildlife Management Units (WMUs) 3C and 3J (oval, mostly in Ulster County) and 3H and 3K (circle, mostly in Sullivan County) where pilot antler restrictions have been in place since 2005 and 2006, respectively.....	2
--	---

INTRODUCTION

The New York State Department of Environmental Conservation (DEC) initiated a pilot program of antler restrictions¹ in wildlife management units (WMUs) 3C and 3J for the 2005 hunting season, and expanded the pilot program to include WMUs 3H and 3K in 2006 (Figure 1). As part an evaluation of the effects of the pilot program on hunter experiences and perceptions, staff with Cornell University's Human Dimensions Research Unit (HDRU) surveyed samples of hunters living and/or hunting in WMUs 3C and 3J after the 2005, 2006, and 2007 hunting seasons (Brown 2006, Enck and Brown 2008a, Enck and Brown 2008b, respectively). Hunters living or hunting in WMUs 3H and 3K were surveyed after the 2006 and 2007 hunting seasons.

The purpose of this current survey (following the 2010 season) was to add to the overall evaluation by monitoring and better understanding hunters' experiences and attitudes with respect to the pilot antler restrictions. Of particular interest was determining whether antler restrictions changed hunters' participation in the pilot WMUs or influenced their willingness to voluntarily pass-up shots at smaller-antlered bucks in areas without mandatory antler restrictions. We also wanted to determine the acceptability of continuing, discontinuing, or modifying the antler restriction regulations.

METHODS

The main groups of interest for this survey included 474 persons living in WMUs 3C or 3J (3C/3J Panel) who had been surveyed previously about the pilot antler restrictions, and who had responded in at least one of the years in which they were surveyed (i.e., 2006, 2007, and/or 2008) and 280 persons living in WMUs 3H or 3K (3H/3K Panel) who had been surveyed previously about the pilot antler restrictions, and who had responded in at least one of the years in which they were surveyed (i.e., 2007, and/or 2008). Together, these two strata of 754 hunters allowed us to monitor experiences and attitudes of the same people over time.

To fully assess whether the antler restrictions either attracted hunters to the pilot WMUs or caused them to stop hunting there, we surveyed an additional 634 hunters who did not live in the pilot WMUs (Non-local Hunters). Non-local Hunters were split between those who had applied for a DMP in one of the pilot WMUs ($n = 316$) in 2004 (prior to antler restrictions) or 2010, and those who reported harvesting a deer in one of the WMUs ($n = 318$) in 2004 or 2010. These Non-local Hunters are included in the assessment of whether antler restrictions have caused a change in participation behavior, but are not combined with respondents from the two panels for the other results because the sampling frames for selecting these hunters differed substantially from the sampling frames for the panels.

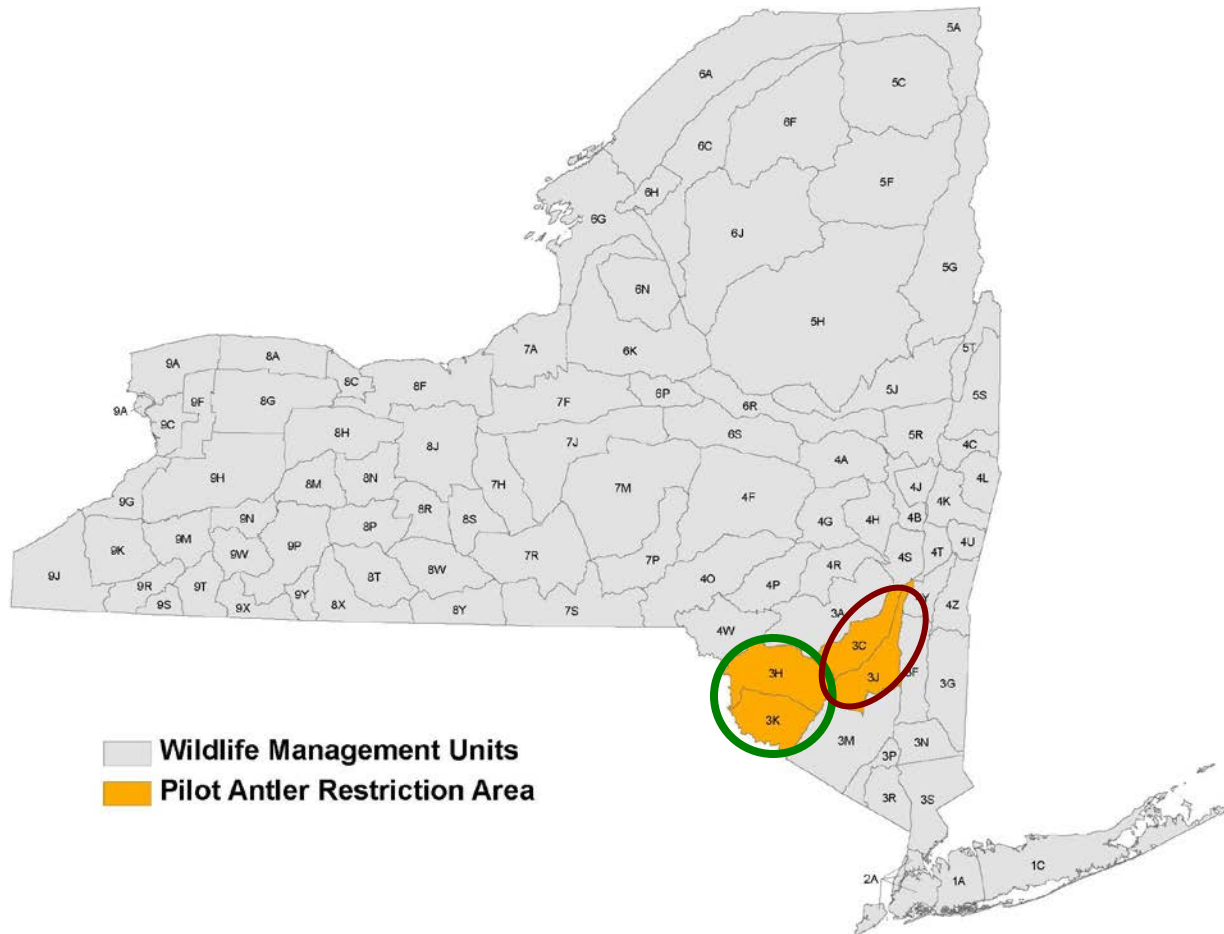


Figure 1. Location of Wildlife Management Units (WMUs) 3C and 3J (oval, mostly in Ulster County) and 3H and 3K (circle, mostly in Sullivan County) where pilot antler restrictions have been in place since 2005 and 2006, respectively.

All 1,388 hunters in the four samples were mailed a questionnaire on 18 February 2011 (125 questionnaires were not deliverable). Reminder letters were mailed to survey nonrespondents on 25 February, 11 March, and 18 March. We received 757 completed questionnaires. These included: 281 (65.7%) from the 3C/3J Panel, 173 (65.8%) from the 3H/3K Panel, 140 (49.0%) from the DMP applicants, and 159 (55.6%) from the harvest reporters. In

¹ Antlered bucks must have ≥ 3 points on a side to be harvested legally by hunters ≥ 17 years of age; younger hunters are exempted.

addition, telephone surveys using a subset of the most important questions were completed with 200 nonrespondents to the mail surveys (100 from the two panels, and 100 from the DMP applicants and harvest reporters) between April 6 and 20, 2011 to determine if nonrespondents' experiences or attitudes differed from those of respondents to the mail survey. In general, nonrespondents were less likely to have hunted deer in 2010 (68% hunted), but otherwise reported similar levels of satisfaction and opinions about the antler restriction program as respondents. Non-local Hunters also reported levels of satisfaction and opinions about the pilot program that were similar to respondents from the two panels.

RESULTS

Hunting Participation

Antler restrictions had little influence on deer-hunting participation in the pilot WMUs for the majority of respondents from each stratum (Table 1). Very few respondents from any stratum were attracted to hunt in the pilot WMUs because of antler restrictions (2-9%), or stopped hunting in the pilot WMUs because of antler restrictions (3-8%).

Table 1. Influence of antler restrictions on deer-hunting participation in the pilot WMUs.

<u>Hunting participation</u>	<u>Group</u>		
	<u>3C/3J</u> <u>Panel</u> (%)	<u>3H/3K</u> <u>Panel</u> (%)	<u>Non-local</u> <u>Hunters</u> (%)
Did not hunt in the pilot WMUs before antler restrictions, but was attracted to hunt there because of the restrictions	2.3	3.9	8.9
Hunted in the pilot WMUs before antler restrictions, but now hunt <u>more days</u> there because of the restrictions	7.2	14.4	4.1
Antler restrictions have had no effect on my hunting participation	72.2	70.6	60.2
Hunted in the pilot WMUs before antler restrictions, but now hunt <u>fewer days</u> there because of the restrictions	12.2	7.8	18.7
Hunted in the pilot WMUs before antler restrictions, but stopped hunting there because of the restrictions	<u>6.1</u>	<u>3.3</u>	<u>8.1</u>
Column totals	100.0	100.0	100.0

About 60-70% of respondents from the 3C/3J panel, the 3H/3K panel and Non-local Hunters hunted deer in the pilot WMUs each year since the antler restrictions started (Table 2). About one in six respondents from each group had not hunted in the pilot WMUs since antler restrictions started. We do not know if these persons hunted there prior to the start of the pilot program. Consistent with the results in Table 1, relatively few respondents in any stratum either started hunting in the pilot WMUs sometime since the antler restriction pilot program began, or stopped hunting there since the pilot began.

Table 2. Participation in the pilot WMUs during the 2005 through 2010 hunting seasons.

Participation pattern	3C/3J Panel (%)	3H/3K Panel (%)	Non-local Hunters (%)
Hunted in one or more of the pilot WMUs every year since antler restrictions started	68.1	69.4	61.6
Have not hunted in pilot WMUs since antler restrictions	16.1	16.8	17.4
Started hunting consistently year-to-year in the pilot WMUs after the pilot began started	4.6	3.6	7.6
Hunted consistently in the pilot WMUs for ≥ 3 years, but have not hunted there in last few years.	7.1	7.6	8.5
All other combinations of years hunted (mostly patterns of intermittent year-to-year hunting in the pilot WMUs)	4.1	2.6	4.9
	100.0	100.0	100.0

Satisfaction with Hunting Experiences

A plurality of respondents in each stratum (45-51%) was satisfied with their overall deer-hunting experiences in 2010, whereas 29-35% were dissatisfied (Table 3). Satisfaction with buck-hunting experiences in 2010 season was nearly identical to satisfaction with overall experiences (Table 4). A higher percentage of hunters participating in the pilot WMUs (only slightly higher in 3C/3J) were satisfied with their buck-hunting experiences in 2010 than was found recently for deer hunters in DEC Regions 3 and 4 that includes the pilot WMUs, but where most WMUs do not have antler restrictions. Indeed, a statewide deer hunter survey conducted after the 2009 season revealed that 39% of hunters whose primary place to hunt deer was in DEC Regions 3 and 4 were satisfied with their buck-hunting experiences and 46% were dissatisfied (Enck et al. 2011).

Respondents from the two panels differed slightly in the magnitude of changes in satisfaction with their overall deer-hunting experiences (Table 5) and with their buck-hunting experiences (Table 6) since antler restrictions began. Higher percentages of respondents from the 3H/3K Panel compared to the 3C/3J Panel reported that their satisfaction had increased over time, as was the case throughout DEC Regions 3 and 4 (Enck and Brown 2008c, Enck et al. 2011). In general, pluralities of those who reported their satisfaction had increased indicated it had increased “greatly” whereas the magnitude of change for those whose satisfaction decreased was more evenly split among “slightly,” “moderately,” and “greatly.” These patterns did not differ greatly between overall deer hunting and buck hunting more specifically.

Table 3. Level of satisfaction with overall deer-hunting experiences in the pilot WMUs during the 2010 hunting season.

<u>Satisfaction</u>	Strata	
	<u>3C/3J</u> <u>Panel</u> (%)	<u>3H/3K</u> <u>Panel</u> (%)
Greatly satisfied	16.7	26.6
Moderately satisfied	18.6	19.4
Slightly satisfied	9.5	5.0
	44.8	51.0
Neither satisfied nor dissatisfied	19.9	19.4
Slightly dissatisfied	12.7	12.2
Moderately dissatisfied	6.8	5.0
Greatly dissatisfied	15.8	12.2
	35.3	29.4
	100.0	100.0

Table 4. Level of satisfaction with buck-hunting experiences in the pilot WMUs during the 2010 hunting season.

<u>Satisfaction</u>	Strata	
	<u>3C/3J</u> <u>Panel</u> (%)	<u>3H/3K</u> <u>Panel</u> (%)
Greatly satisfied	15.1	27.3
Moderately satisfied	17.4	16.5
Slightly satisfied	9.6	7.9
	42.1	51.7
Neither satisfied nor dissatisfied	18.3	19.4
Slightly dissatisfied	11.9	8.6
Moderately dissatisfied	8.2	5.0
Greatly dissatisfied	19.6	15.1
	39.7	28.7
	100.0	100.0

Table 5. Change in satisfaction with overall deer-hunting experiences since antler restrictions began in the pilot WMUs.

<u>Change in satisfaction</u>	Strata	
	3C/3J	3H/3K
	<u>Panel</u> (%)	<u>Panel</u> (%)
Greatly increased	17.5	16.3
Moderately increased	12.2	21.3
Slightly increased	10.9	13.5
No change	23.6	27.7
Slightly decreased	12.7	7.1
Moderately decreased	9.6	6.4
Greatly decreased	13.5	7.8
	100.0	100.0

Table 6. Change in satisfaction with buck-hunting experiences since antler restrictions began in the pilot WMUs.

<u>Change in satisfaction</u>	Strata	
	3C/3J	3H/3K
	<u>Panel</u> (%)	<u>Panel</u> (%)
Greatly increased	16.6	22.5
Moderately increased	11.8	18.3
Slightly increased	11.4	14.8
No change	24.0	25.4
Slightly decreased	12.2	5.6
Moderately decreased	9.2	4.9
Greatly decreased	14.8	8.5
	100.0	100.0

Factors Affecting Hunters' Satisfaction

One-half or more of respondents from the two panels indicated that four factors were below the thresholds that enabled them to be satisfied: (1) their perception of the deer sex ratio (not enough males) and (2) buck age ratio (not enough older bucks), (3) the number of older bucks they saw while hunting, and (4) their perception of the opportunity to harvest an older buck (Table 7). Respondents from the 3C/3J and 3H/3K panels were consistent in their estimates of the deer sex ratio (about one-quarter antlered bucks and three-quarters antlerless deer) and buck age ratio (about two-thirds younger bucks and one-third older bucks).

Three additional factors associated with hunting satisfaction were each “too low” for between 40-50% of respondents: (1) total number of antlered bucks seen, (2) total number of deer seen, and (3) their perception of the freedom of choice they had to take the buck they wanted (Table 8). For two factors, more respondents indicated that experienced levels were “high enough” for them to be satisfied than indicated experienced levels were “too low”: (1) perceived amount of protection afforded young bucks, and (2) perceived sense of being safe because other hunters had to be more careful about whether a buck met the antler restriction requirements before they could shoot (Table 9).

Among possible negative aspects of hunting, respondents' frustration with the level at which they perceived other hunters to not be complying with the antler restrictions was “too high” for about one-third to be satisfied (Table 10). Indeed, respondents believed that 17-18% of hunters who harvested a buck shot one that was “too small.” In addition to frustration about noncompliance, 23-30% of respondents also reported that the difficulty they experienced in determining whether bucks they saw were legal to shoot was “too high.”

A majority of respondents indicated that, under the antler restrictions, their expectations were not met for three aspects of their hunting experiences: (1) the number of older, larger-antlered bucks they saw while hunting, (2) the number of antlered bucks seen compared to the number of antlerless deer, and (3) their opportunities to shoot a larger-antlered buck (Table 11). Respondents in the two panels reported slight differences about whether their expectations were met for two other aspects that we examined, with slightly more hunters from the 3H/3K Panel than the 3C/3J Panel indicating their expectations were met for: (1) the total number of antlered bucks of any size seen while hunting, and (2) their perceived chances of shooting a buck.

Table 7. Positive aspects of hunters' experiences for which approximately one-half or more of respondents were dissatisfied.
(Percents total across rows.)

Factors affecting satisfaction (Stratum)	Far too low for me to be satisfied %	Too low for me to be satisfied %	Total dissatisfied %	Just at the minimum I need to be satisfied %	More than I need to be satisfied %	Much more than I need to be satisfied %	Total satisfied %
Number of antlered bucks compared to number of antlerless deer I saw (deer sex ratio)							
3C/3J Panel	33.0	24.7	57.7	25.3	14.3	2.7	17.0
3H/3K Panel	40.5	22.4	62.9	19.0	11.2	6.9	18.1
Number of older, larger-antlered bucks I saw							
3C/3J Panel	42.9	15.3	58.2	17.5	17.5	6.8	24.3
3H/3K Panel	32.2	17.8	50.0	24.6	16.9	8.5	25.4
Number of older bucks compared to number of younger bucks I saw (buck age ratio)							
3C/3J Panel	37.0	17.7	54.7	22.7	19.3	3.3	22.6
3H/3K Panel	34.5	17.2	51.7	28.4	12.9	6.9	19.8
My opportunity to shoot a large-antlered buck							
3C/3J Panel	40.4	13.1	53.5	26.2	15.3	4.9	20.2
3H/3K Panel	34.2	16.2	50.4	24.8	17.9	6.8	24.7

Table 8. Positive aspects of hunters' experiences for which 40-50% of respondents were dissatisfied. (Percents total across rows.)

Factors affecting satisfaction (Stratum)	Far too low for me to be satisfied %	Too low for me to be satisfied %	Total dissatisfied %	Just at the minimum I need to be satisfied %	More than I need to be satisfied %	Much more than I need to be satisfied %	Total satisfied %
Total number of antlered bucks I saw							
3C/3J Panel	31.3	17.9	49.2	19.6	22.9	8.4	31.3
3H/3K Panel	28.8	18.6	47.4	22.0	19.5	11.0	30.5
My freedom of choice about which buck I could harvest							
3C/3J Panel	35.2	9.3	44.5	28.6	13.7	13.2	26.9
3H/3K Panel	25.0	16.4	41.4	28.4	18.1	12.1	30.2
Total number of deer I saw							
3C/3J Panel	29.6	11.2	40.8	25.1	22.9	11.2	34.1
3H/3K Panel	28.1	14.9	43.0	23.7	20.2	13.2	33.4

Table 9. Positive aspects of hunters' experiences for which more respondents were satisfied than dissatisfied. (Percents total across rows.)

Factors affecting satisfaction (Stratum)	Far too low for me to be satisfied %	Too low for me to be satisfied %	Total dissatisfied %	Just at the minimum I need to be satisfied %	More than I need to be satisfied %	Much more than I need to be satisfied %	Total satisfied %
Level of protection from harvest that I felt young bucks were given							
3C/3J Panel	11.8	13.5	25.3	32.6	24.2	18.0	42.2
3H/3K Panel	16.7	11.4	28.1	27.2	26.3	18.4	44.7
Level of safety I felt knowing that other hunters must carefully assess if a buck is legal before they shoot at it							
3C/3J Panel	11.1	8.3	19.4	42.2	25.6	12.8	38.4
3H/3K Panel	8.7	17.4	26.1	28.7	25.2	20.0	45.2

Table 10. Negative aspects of hunters' experiences compared with their level of tolerance for those aspects. (Percents total across rows.)

Factors affecting satisfaction (Stratum)	Far more than I could tolerate and still be satisfied %	A little more than I could tolerate and still be satisfied %	Total dissatisfied %	Just at the limit of what I could tolerate to be satisfied %	A little below what I could tolerate and still be satisfied %	Plenty low enough for me to be satisfied %	Total satisfied %
Frustration that other hunters were not complying with antler restrictions							
3C/3J Panel	15.3	21.0	36.3	32.4	13.6	17.6	31.2
3H/3K Panel	13.3	20.4	33.7	42.5	14.2	9.7	23.9
Difficulty I had figuring out if bucks I saw were legal to shoot							
3C/3J Panel	14.2	15.9	30.1	33.5	19.3	17.0	36.3
3H/3K Panel	5.3	17.7	23.0	36.3	24.8	15.9	40.7
Pressure to shoot the first legal buck I saw instead of waiting for one I would rather shoot							
3C/3J Panel	15.8	10.2	26.0	33.3	14.1	26.6	40.7
3H/3K Panel	14.4	10.8	25.2	34.2	18.9	21.6	40.5
Crowding by other hunters							
3C/3J Panel	5.6	11.2	16.8	42.5	19.0	21.8	40.8
3H/3K Panel	3.5	13.0	16.5	35.7	25.2	22.6	47.8

Table 11. Comparison of hunters' expectations and experiences for five aspects of deer hunting. (Percents total across rows.)

Factors affecting satisfaction (Stratum)	Much lower than I expected %	A little lower than I expected %	Expectations <u>not</u> met %	About what I expected %	A little higher than I expected %	Much higher than I expected %	Expectations met or <u>exceeded</u> %
Number of older, larger-antlered bucks I saw while hunting							
3C/3J Panel	43.7	19.7	63.4	19.7	12.6	4.4	36.6
3H/3K Panel	35.7	18.3	54.0	19.1	19.1	7.8	46.0
Number of bucks seen compared to number of does (deer sex ratio)							
3C/3J Panel	40.4	14.2	54.6	33.3	8.7	3.3	45.3
3H/3K Panel	39.1	16.5	55.6	20.9	18.3	5.2	44.4
My opportunity to shoot larger- antlered buck							
3C/3J Panel	43.5	12.0	55.5	21.7	15.2	7.6	44.5
3H/3K Panel	36.2	14.7	50.9	17.2	20.7	11.2	49.1
Number of bucks (any age) I saw when hunting							
3C/3J Panel	37.7	16.4	54.1	27.3	12.6	6.0	45.9
3H/3K Panel	30.4	18.3	48.7	27.8	17.4	6.1	51.3
My chances of shooting a buck							
3C/3J Panel	35.0	16.4	51.4	33.3	11.5	3.8	48.6
3H/3K Panel	23.3	20.7	44.4	31.9	16.4	7.8	55.6

Attitudes Toward Voluntary Restraint in lieu of Antler Restrictions

In addition to intolerable levels of frustration expressed by respondents about other hunters not complying with antler restrictions (Table 10), >70% of respondents believed that someone else will shoot a small-antlered buck if they pass-up a shot at it. Despite these two findings, most respondents still have a positive attitude towards showing voluntary restraint in areas without antler restrictions (Table 12). In particular, three beliefs about hunting that we measured contribute to positive attitudes toward voluntary restraint (Table 13): (1) being a deer hunter means being selective about the kind of deer one shoots (i.e., is part of their identity as a deer hunter), (2) if I shoot only larger-antlered bucks, I will be contributing to a better mix of younger and older bucks in the area, and (3) passing up shots at smaller-antlered bucks is a way of expressing my freedom of choice about which buck I shoot. Conversely, relatively few hunters accrue respect or prestige from other hunters by harvesting a young buck compared to not harvesting any buck at all (Table 13). Overall, more respondents agreed than disagreed that hunting under antler restrictions in the pilot WMUs had made them more likely to pass-up younger bucks in places without restrictions.

Table 12. Hunters' attitudes toward showing voluntary restraint by passing-up shots at young bucks with small antlers in places without mandatory antler restrictions.

Attitude	Strata	
	3C, 3J	3H, 3K
	Panel (%)	Panel (%)
Very positive	36.1	47.3
Moderately positive	15.5	21.3
Slightly positive	13.3	10.0
Neither positive nor negative	13.7	14.7
Slightly negative	3.2	0.7
Moderately negative	2.8	2.0
Very negative	6.3	4.0
	100.0	100.0

Table 13. Respondents' agreement or disagreement with statements about possible factors affecting their willingness to voluntarily pass-up shots at young bucks with smaller antlers in places without mandatory antler restrictions. (Percents total across rows.)

Possible factors affecting willingness to pass-up smaller-antlered bucks (Stratum)	Strongly disagree %	Disagree %	Total disagree %	Neither agree nor disagree %	Agree %	Strongly agree %	Total agree %
If I voluntarily pass-up a small-antlered buck, someone else will probably shoot it							
3C/3J Panel	2.4	6.4	8.8	18.3	47.8	25.1	72.9
3H/3K Panel	2.0	11.3	13.3	14.6	46.4	25.8	72.2
Being a deer hunter means being selective about the type of antlered buck one shoots							
3C/3J Panel	11.6	10.8	22.4	18.3	31.9	27.5	59.4
3H/3K Panel	4.6	6.6	11.0	17.8	35.5	35.5	71.0
Taking a small-antlered buck will get me more respect from my hunting companions than taking an antlerless deer							
3C/3J Panel	26.2	26.6	52.8	29.4	12.3	5.6	17.9
3H/3K Panel	34.2	26.3	60.5	30.9	7.2	1.3	8.5
If I shoot only large-antlered bucks, I will be contributing to a better mix of younger and older bucks in the area							
3C/3J Panel	9.5	13.5	23.0	24.2	30.6	22.2	52.8
3H/3K Panel	6.6	7.9	14.5	23.7	30.9	30.9	61.8
Shooting only larger-antlered bucks is consistent with my idea of what it means to be a deer hunter							
3C/3J Panel	20.2	17.4	37.6	22.5	20.6	19.4	40.0
3H/3K Panel	11.8	15.1	26.9	23.0	23.7	26.3	50.0

Table 13. Continued.							
Possible factors affecting willingness to pass-up smaller-antlered bucks (Stratum)	Strongly disagree %	Disagree %	Total disagree %	Neither agree nor disagree %	Agree %	Strongly agree %	Total agree %
Hunting under antler restrictions in the pilot WMUs has made me more likely to voluntarily pass-up shots at small bucks if I were to hunt in places without antler restrictions							
3C/3J Panel	16.5	14.5	31.0	23.8	30.6	14.5	45.1
3H/3K Panel	8.0	9.3	17.3	22.7	38.0	22.0	60.0
Passing-up shots at small-antlered bucks is a way to express my freedom of choice about which buck to shoot							
3C/3J Panel	8.4	10.0	18.4	19.9	38.2	23.5	61.7
3H/3K Panel	4.6	2.6	7.2	21.7	38.2	32.9	71.7

Willingness to Harvest Antlerless Deer

We assessed the influence of the antler restriction pilot program on hunters' willingness to apply for DMPs (Table 14) and willingness to try to fill any DMPs they receive (Table 15). In general, the percentage of respondents expressing each level of willingness has not changed in relation to the antler restriction pilot program. Hunters from the 3H/3K Panel were slightly more willing to apply for and to try to fill a DMP than hunters from the 3C/3J Panel.

Table 14. Changes in willingness to apply for DMPs prior to and since experiencing the pilot antler restrictions.

<u>Level of willingness</u>	<u>3C/3J Panel</u>		<u>3H/3K Panel</u>	
	<u>Prior to antler restrictions (%)</u>	<u>Since antler restrictions (%)</u>	<u>Prior to antler restrictions (%)</u>	<u>Since antler restrictions (%)</u>
Not at all willing	10.1	13.1	9.2	11.4
Slightly willing	11.3	13.9	9.9	12.8
Moderately willing	24.2	21.2	23.0	20.8
Very willing	<u>54.4</u>	<u>51.6</u>	<u>57.9</u>	<u>55.0</u>
	100.0	100.0	100.0	100.0

Table 15. Changes in willingness to try to fill DMPs before and since experiencing the pilot antler restrictions.

<u>Level of willingness</u>	<u>3C/3J Panel</u>		<u>3H/3K Panel</u>	
	<u>Prior to antler restrictions (%)</u>	<u>Since antler restrictions (%)</u>	<u>Prior to antler restrictions (%)</u>	<u>Since antler restrictions (%)</u>
Not at all willing	12.7	15.4	8.7	9.3
Slightly willing	18.0	13.8	16.1	15.3
Moderately willing	29.5	29.2	27.5	26.7
Very willing	<u>39.8</u>	<u>41.7</u>	<u>47.7</u>	<u>48.7</u>
	100.0	100.0	100.0	100.0

Acceptability of Possible Future Management Actions

Continuation of the pilot program as it currently operates is “very acceptable” to a plurality or majority of respondents from both panels (Table 16). The idea of discontinuing antler restrictions and emphasizing voluntary restraint against shooting younger bucks is “not at all acceptable” to a plurality or majority in both panels. Respondents expressed split opinions about modifying the program to protect yearling bucks in a way that did not include antler restrictions. Overall, majorities in both panels prefer continuing the program “as is” (Table 17).

Table 16. Acceptability of possible future management directions for the pilot WMUs.

Possible future direction for antler restriction program (Stratum)	Very acceptable (%)	Moderately acceptable (%)	Slightly acceptable (%)	Not at all acceptable (%)	Row totals (%)
DEC <u>continues</u> the pilot antler restriction program as is in WMUs 3C, 3J, 3H and 3K					
3C/3J Panel	45.9	16.0	15.2	23.0	100.0
3H/3K Panel	62.0	17.7	10.8	9.5	100.0
DEC <u>modifies</u> the pilot program in WMUs 3C, 3J, 3H, and 3K by protecting yearling bucks in some way other than antler restrictions					
3C/3J Panel	21.3	24.5	28.1	26.1	100.0
3H/3K Panel	17.4	26.5	25.2	31.0	100.0
DEC <u>discontinues</u> the pilot program and instead emphasizes voluntary restraint on the part of hunters to pass-up smaller-antlered bucks					
3C/3J Panel	25.0	14.3	13.5	47.2	100.0
3H/3K Panel	17.3	7.7	13.5	61.5	100.0

Table 17. Preferences for possible future management directions in the pilot WMUs.

<u>Stratum</u>	<u>Continue antler restrictions as it currently is</u> (%)	<u>Modify program to protect yearling bucks another way</u> (%)	<u>Discontinue antler restrictions, emphasize voluntary restraint</u> (%)	<u>Row totals</u> (%)
3C/3J Panel	55.7	14.1	30.2	100.0
3H/3K Panel	70.5	16.8	12.8	100.0

Influence of the Pilot Program on Attitudes toward DEC

In general, DEC's implementation and evaluation of a pilot program focused on antler restrictions as a way of protecting yearling bucks from harvest has had a positive influence on hunters' attitudes toward DEC (Table 18). More respondents reported increases than decreases in their confidence in DEC's ability to manage deer, and their sense that DEC listens to hunters' interests and takes those interests into account when setting regulations. Among hunters from the 3H/3K Panel, twice as many expressed an increase in their overall satisfaction with the deer management program than reported a decrease in satisfaction. Hunters from the 3C/3J Panel were split about whether their satisfaction had increased or decreased.

Table 18. Influence of DEC's use of the pilot program to experimentally evaluate hunters' satisfaction with antler restrictions on hunters' perceptions of DEC's deer management program.

Perceptions about DEC's deer management program (stratum)	Decreased (%)	No change (%)	Increased (%)	Row totals (%)
My confidence in DEC's ability to manage deer				
3C/3J Panel	19.8	56.1	24.0	100.0
3H/3K Panel	17.2	51.6	31.2	100.0
My sense that DEC is willing to listen to deer hunters' interests				
3C/3J Panel	18.4	42.9	38.7	100.0
3H/3K Panel	17.6	34.6	47.8	100.0
My sense that DEC takes deer hunters' interests into account when setting hunting regulations				
3C/3J Panel	21.8	45.6	32.6	100.0
3H/3K Panel	18.5	46.5	35.0	100.0
My satisfaction with DEC's deer management program				
3C/3J Panel	27.1	43.5	29.4	100.0
3H/3K Panel	22.2	34.8	43.0	100.0

SUMMARY

In general, more hunters in the 3H/3K Panel than in the 3C/3J Panel report being satisfied with their experiences, as we have consistently found in other surveys of hunters participating in the pilot WMUs (Brown 2006, Enck and Brown 2008a, Enck and Brown 2008b). Dissatisfaction among hunters in both panels seems related both to unmet expectations about hunting experiences under antler restrictions and levels of positive aspects of hunting that were “too low” for the hunters to be satisfied. Negative aspects of hunting generally are not experienced at levels “too high” for hunters to be satisfied, with the exception of their frustration with what they perceive as non-compliance by other hunters with the restrictions.

Many respondents indicated that their experiences with antler restrictions in the pilot WMUs have increased their willingness to voluntarily pass up shots at smaller-antlered bucks in places without antler restrictions. Hunters’ willingness to apply for and try to fill DMPs did not change because of their experiences under antler restrictions.

Despite many hunters having dissatisfying experiences, unmet expectations, and insufficient levels of desirable hunting experiences, a majority of respondents prefer to have the antler restriction program continue as it currently exists. In addition, DEC’s willingness to implement antler restrictions on a pilot basis generally has had a positive effect on hunters’ attitudes towards DEC and the deer management program.

LITERATURE CITED

- Brown, T. L. 2006. Ulster County deer hunters’ satisfaction with the pilot antler restriction program in Wildlife Management Units 3C and 3J. Human Dimensions Research Unit publication 06-5. New York State College of Agriculture and Life Sciences, Cornell University. Ithaca, NY. USA.
- Enck, J. W. and T. L. Brown. 2008a. Evaluation of antler restrictions in DEC Region 3: 2nd year in 3C and 3J, and 1st year in 3H and 3K. Human Dimensions Research Unit series publication 08-4. Department of Natural Resources, Cornell University, Ithaca, NY, USA.
- Enck, J. W. and T. L. Brown. 2008b. Deer hunters’ assessment of antler restrictions in wildlife management units (WMUs) 3C, 3J, 3H, and 3K during the 2007 hunting season. Human Dimensions Research Unit series publication 08-7. Department of Natural Resources, Cornell University, Ithaca, NY, USA.
- Enck, J. W. and T. L. Brown. 2008c. 2007 statewide deer hunter survey: participation during the ’06 seasons, opinions about hot-button issues, and trends in characteristics of hunters. Human Dimensions Research Unit series publication 08-5. Department of Natural Resources, Cornell University, Ithaca, NY, USA.

Enck, J. W., R. C. Stedman, and D. J. Decker. 2011. Final report: statewide deer hunter survey – 2010. Human Dimensions Research Unit publication 11-1. New York State College of Agriculture and Life Sciences, Cornell University, Ithaca, NY. USA.